

REMARKS

1. This amendment does not incorporate any new matter therein.
2. The Office Action mentioned that “the specification does not describe a type of plate that allows only MSCs to not pass through and to adhere to the upper plate of the culture device. The specification does not describe why the separation by size does not result in additional cells remaining on the upper plate and adhering if a mixture of cells such as a bone marrow aspirate is applied to the device.” However, it has been well reported that MSCs are plastic-adherent cells, as stated in this published application [0007] “Friedenstein (Exp. Hematol. 4:276, 1976) placed whole bone marrow in culture plastic dishes and poured off the cells that were non-adherent after 4 hours. However, the isolated cells initially are heterogeneous and are difficult to clone.” In section [0009], it also stated that “briefly, mesenchymal stem cells can be isolated with the use of a culture device depending on, for example, difference in cell size, different adherence capacity ... “ Furthermore, section [0024] also disclosed that “by means of their characteristics of larger size (van Vlasselaer P, et al., supra), ease to adhere and their role in supporting haematopoietic stem cells.”

Furthermore, the US patent 6,010,696 (filed on 07/1/1998) disclosed that “this process of removing the non-adherent cells during culture media changes results in purification of the mesenchymal stem cells which selectively adhere to the culture plates.” (Column 4 lines 50~53) The US patent 6,576,465 also stated that “the cells adhere to tissue plastic or glass while bone accessory cells do not.” (Column 11 lines 23~25) Actually, the MSCs are also called “plastic-adherent

cells,” which would be supported by many references, for example:

- a) Colter DC, Class R, DiGirolamo CM, Prockop DJ. Rapid expansion of recycling stem cells in cultures of plastic-adherent cells from human bone marrow. *Proc Natl Acad Sci U S A*. 2000 Mar 28;97(7):3213-8.
- b) Phinney DG, Kopen G, Isaacson RL, Prockop DJ. Plastic adherent stromal cells from the bone marrow of commonly used strains of inbred mice: variations in yield, growth, and differentiation. *J Cell Biochem*. 1999 Mar 15;72(4):570-85.
- c) Gordon MY. Plastic-adherent cells in human bone marrow generate long-term hematopoiesis in vitro. *Leukemia*. 1994 May;8(5):865-70.
- d) Gordon MY, Riley GP, Greaves MF. Plastic-adherent progenitor cells in human bone marrow. *Exp Hematol*. 1987 Aug;15(7):772-8.

In other words, the MSCs adhering to plastic plate is well disclosed in prior arts as well as known by any person skilled in the art. Therefore, of course, the upper plate of this application is limited to be made of plastic or glass. As CAFC stated in 2004/02 *University of Rochester v, Pfizer Inc.* case, “while it is true that this court and its predecessor have repeatedly held that claimed subject matter ‘need not be described in haec verba’ in the specification to satisfy the written description requirement, e.g., *In re Smith*, 481 F.2d 910, 914 (CCPA 1973), it is also true that the requirement must still be met in some way so as to ‘describe the claimed invention so that one skilled in the art can recognize what is claimed.’ *Enzo*, 323 F.3d at 968.”

- 3. It is also well known in the prior art that “the mesenchymal cells of the present invention are larger and more granular than peripheral blood

leukocytes when assessed by forward and side scattering of incident light during cytofluorography.” (US patent 6,054,121 Column 7 lines 43-46) Furthermore, US patent 6,740,493 also stated that “bone precursor cells of the present invention generally have average diameters of between 8 microns and about 70 microns, and preferably, of between about 10 microns and about 20 microns.” (column 6 lines 52~56) In other words, the cell size of MSCs is also well known.

Moreover, the applicants further amend the pore size ranges from about 0.4 to 20 microns in diameter.

4. As discussed above, the size of MSCs and their property of adhering to plastic plate are well disclosed in prior arts. Therefore, this amendment of Claim#1 has defined the pore size ranged from 0.4 to 20 microns in diameter and also limited to “adhere onto the upper plate”, which should be precise, logical and exact for anyone skilled in the art.

5. Accordingly, this application now should be placed in condition of allowance. An early Notice to this effect is respectfully expected.

Respectfully submitted:

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